lent users was only significant between lovastatin and pravastatin. **CONCLUSION:** Pravastatin is associated with less healthcare resource utilization in new users, possibly due to lack of interaction effects. In prevalent users, the differences were minimized, possibly due to adjustments in drug and dosage regimens.

R2

RISK FACTORS FOR SHORT-TERM DIABETES COMPLICATIONS: AN ANALYSIS OF LINKED ADMINISTRATIVE CLAIMS AND CLINICAL LABORATORY DATA

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Much of research on the costs of diabetes mellitus has focused on long-term complications. There are limited data on the factors associated with acute diabetes-related events. **OBJECTIVE:** The goal of this study was to identify predictors of acute diabetes complications in a managed-care setting. **METHODS:** Using a retrospective cohort design and a database that linked medical claims and clinical laboratory data, adult members of a New England health plan with a diagnosis of diabetes mellitus between January 1, 1994 through June 30, 1998 were identified. Inpatient admissions with diagnoses consistent with acute ("short-term") diabetes complications (represented primarily by hyperglycemia, hypoglycemia, and selected infections) were then evaluated, and expressed on a 3-year basis. Stratified and multivariate logistic regression analyses were employed to determine the influence of key factors, such as age, gender, mean glycosylated hemoglobin (HbA1c) value, whether the patient had a diagnosis of cancer, and whether the patient had long-term diabetes complications, on the risk of inpatient admission. **RESULTS:** Of 2,394 patients with diabetes mellitus, approximately 11% (269) had at least one inpatient stay for an acute complication over 3 years. The risk of inpatient treatment for short-term complications was found to increase 22% (odds ratio 1.22, $P < 0.01$) for every one point increase in HbA1c. In addition, advancing age (odds ratios of 1.63 and 2.56 for patients 60 to 69 years and 70+ years relative to under 50 years, respectively; both $P < 0.05$), long-term complications (odds ratio 9.39, $P < 0.01$), and cancer (odds ratio 3.13, $P < 0.01$) all were associated with increasing risk. **CONCLUSIONS:** In clinical practice, we found that poorer glycemic control, age, and comorbidity are independent risk factors for acute diabetes complications. Further research is needed to determine whether better risk-factor management (e.g., control of HbA1c) can reduce the rate of acute diabetes complications.

R3

DONEPEZIL USE AND IMPACT ON COST AMONG PATIENTS WITH ALZHEIMER'S DISEASE

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In 1996 the FDA approved donepezil for treatment of Alzheimer's patients with symptoms of memory and cognitive loss. A recent study projected that the cost of donepezil could be offset by reduced utilization over a two-year period. **OBJECTIVES:** The purpose of this study was to measure use of donepezil among Veteran's Health Administration (VHA) patients during FY'98 and the impact on cost. **METHODS:** Patients diagnosed with Alzheimer's disease in five VHA medical centers were identified and costs for inpatient and outpatient care were calculated based on Medicare reimbursement rates. Extended care costs were calculated at $236 per day (VHA national per diem). Prescription costs were calculated using VHA Pharmacy Benefit Management prices. Patients with medical contraindications, those who died during the study period, and those admitted to an extended care facility prior to the beginning of the fiscal year, were excluded from the analysis. Regression analysis was used to measure the association between donepezil use and cost while controlling for severity, comorbidity, previous hospitalizations, and site. **RESULTS:** Donepezil was used by 11% (167) of patients with no contraindications (N = 1484). The regression analyses indicated donepezil users had higher pharmaceutical (+$800, $P = 0.0001$) and outpatient costs (+$801, $P = 0.006$), but lower inpatient (acute plus extended care) costs (−$1542, $P = 0.10$). There was no substantial difference in total cost (+$58, $P = 0.95$). **CONCLUSION:** The results support the hypothesis that higher pharmaceutical and outpatients costs related to donepezil use are offset by lower inpatient costs. The extent of the offset may be greater for the VHA (due to substantial discounts with drug manufacturers), than would be found in other health care systems.

R4

AVAILABILITY OF HIGHLY ACTIVE ANTIRETROVIRAL THERAPY ASSOCIATED WITH INCREASED SURVIVAL AND LOWER COSTS AT A VA MEDICAL CENTER

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OBJECTIVE: The objective of this study was to compare survival and costs before and after the availability of

HAART as a treatment regimen for HIV-infected individuals at a Veterans Affairs Medical Center. **STUDY DESIGN:** This was a retrospective database study covering five US government fiscal years (1994 through 1998). During that time frame, protease inhibitors were introduced, allowing the use of potent combination drug therapy known as highly-active antiretroviral therapy (HAART). **METHODS:** Survival methods were used to analyze differences in total costs of care and survival between two cohorts treated when HAART was not available and when HAART was available. Survival was measured in days. Health care costs were available for hospitalizations, clinic visits, outpatient medications, and laboratory procedures. A sensitivity analysis was performed to determine the impact of estimates for the costs of clinic visits of varying lengths. **RESULTS:** Statistically significant improvements in survival and reductions in costs were observed for the time period after HAART became available. Mean survival increased from 589 days before the availability of HAART to 702 days after HAART became available ($P < 0.001$). Median annual costs of care decreased from $29,477 to $16,219 ($P < 0.001$). **CONCLUSIONS:** The availability of potent, yet expensive, antiretroviral medications for the treatment of HIV-infected individuals at the Denver VAMC has resulted in improved survival and lower overall medical care costs.

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DH1

AN ANALYSIS OF THE IMPACT OF MEDICATION NON-ADHERENCE AND TYPE OF MEDICATION ON OUTCOME DOMAINS USING THE SCAP HEALTH QUESTIONNAIRE

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OBJECTIVE: To model the effects of medication non-adherence and type of medication on health status, functioning, and quality of life outcomes for persons with schizophrenia enrolled in the US Schizophrenia Care and Assessment Program (SCAP). **METHODS:** Data were obtained from SCAP study participants who completed the baseline and the 6-month assessments and who were using antipsychotic medications (n = 530). Baseline characteristics and type of medication were used to predict 6-month outcomes as measured by the SCAP Health Questionnaire (SCAP−HQ). Adherence at baseline and at six months reflected the 4-week period prior to each assessment. Health status (health score), functioning (social and daily activity), and quality of life (general life satisfaction) were modeled using ordinary least squares. **RESULTS:** No family history, undifferentiated type, private health insurance, and Medicare only were predictive of higher health scores. Being married and non-adherence at six months were predictive of lower health scores. Within the functioning domain, a college education and better health were predictors of higher social activities scores while persons on CHAMPUS exhibited lower scores. Better health, undifferentiated type, and summer birth were predictive of higher life satisfaction. Cohort (recently hospitalized) and medication non-adherence (at baseline and at 6 months) exhibited a negative impact on life satisfaction. **CONCLUSIONS:** These findings suggest that prior period self-reported adherence may be predictive of subsequent period outcomes in health status and quality of life. Medication non-adherence is significantly associated with lower health status and lower life satisfaction and exhibits a negative (though non-significant) impact on functioning outcomes. Education and health status are important determinants of functioning outcomes.

DH2

MEDICARE'S EXTENDED IMMUNOSUPPRESSION COVERAGE IMPROVED MIDDLE-INCOME RENAL GRAFT SURVIVAL

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Between 7/93 and 6/95, Medicare gradually extended its maintenance immunosuppression medication (MIM) coverage from 1 to its current 3 years. **OBJECTIVES:** We hypothesized that lower income recipients would be more non-compliant because of the high cost of MIMs. We examined whether Medicare's extension benefited low-income recipients more. **METHODS:** We matched median family income for each patient's ZIP code from the 1990 Census with clinical data on first cadaveric renal transplants from the USRDS-distributed UNOS registry. We used Kaplan-Meier plots and Cox Proportional Hazards Models to analyze the differences in graft survival in the two chronological cohorts (6,279 and 10,060 recipients before and after the extended coverage, respectively) and two income groups (above and below the upper quartile family income of $33,277). **RESULTS:** When Medicare covered MIMs for 1 year, the high and lower income groups had equivalent graft survival at 1 year. By 3 years post-transplant the lower income group had a 4.4% greater graft failure ($P = 0.001$). Among 1 year survivors, the lower income group eligible for only 1 year MIM coverage had a 5% greater graft failure at the end of three years post-transplant ($P < 0.001$). The risk ratios from a multivariate Cox Proportional Hazards model indicate that Medicare's extended coverage eliminated the entire differential graft loss associated with lower incomes. Even in the next-to-highest income quartile, the graft loss (RR = 1.37, $P < 0.008$) and the benefits of extended coverage (RR = 0.70, $P = 0.035$) were significant. **CONCLUSION:** We infer that extended MIM coverage improved compliance for all but the highest income recipients. This should